

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100

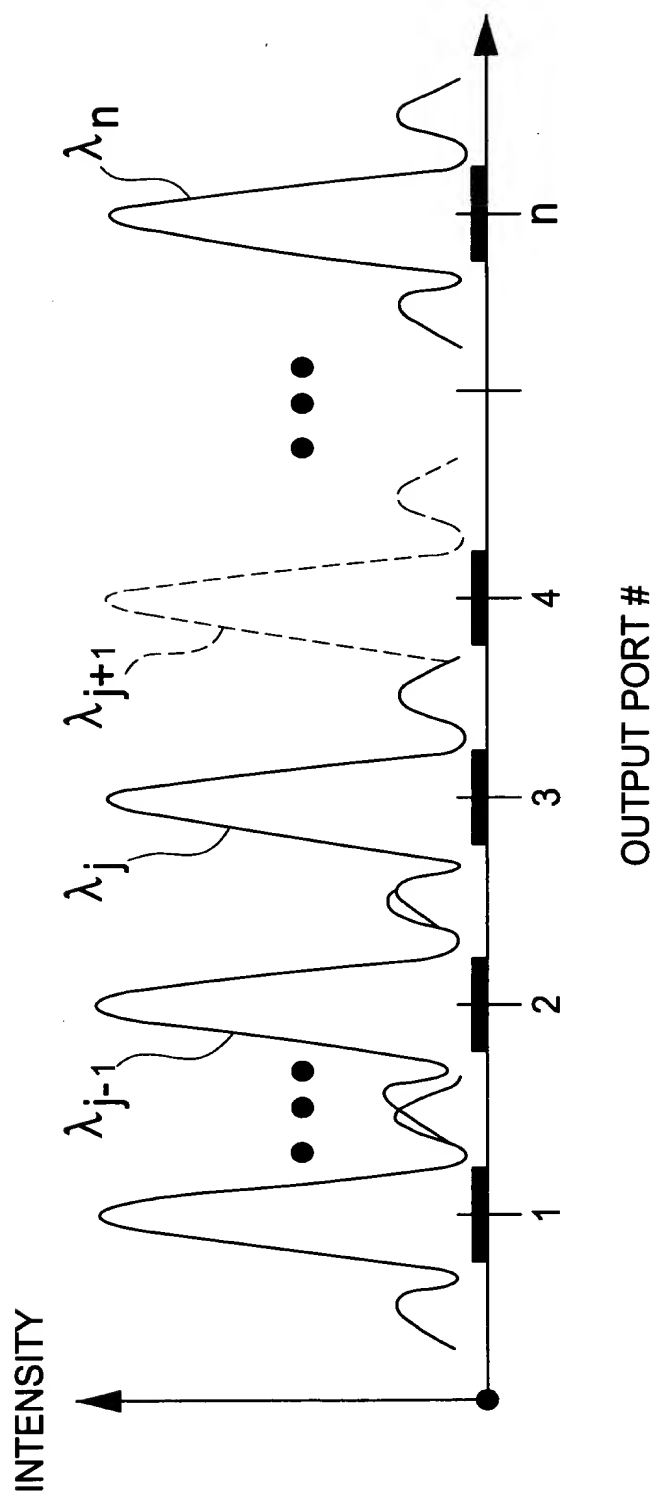
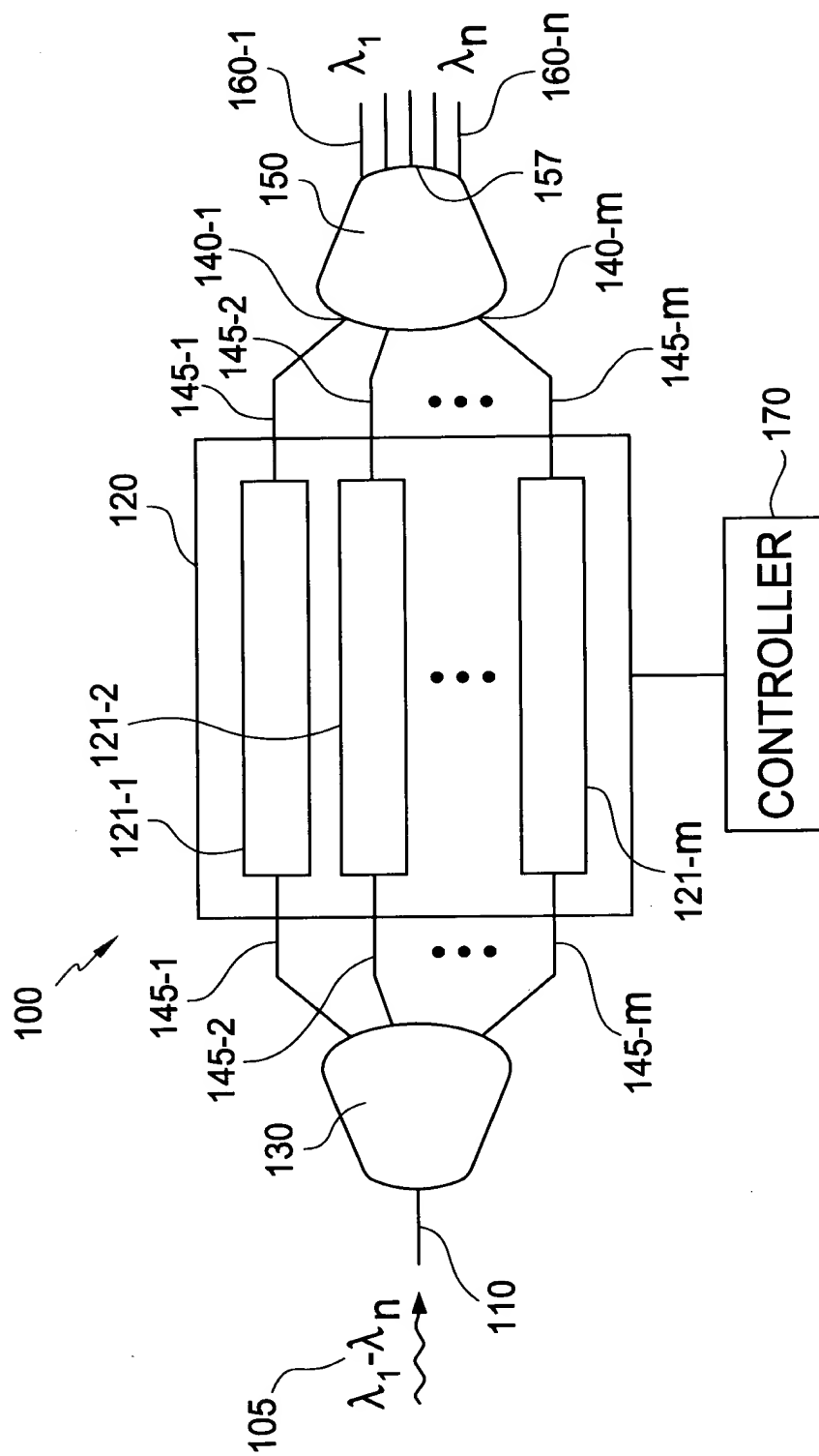


FIG. 2
(PRIOR ART)



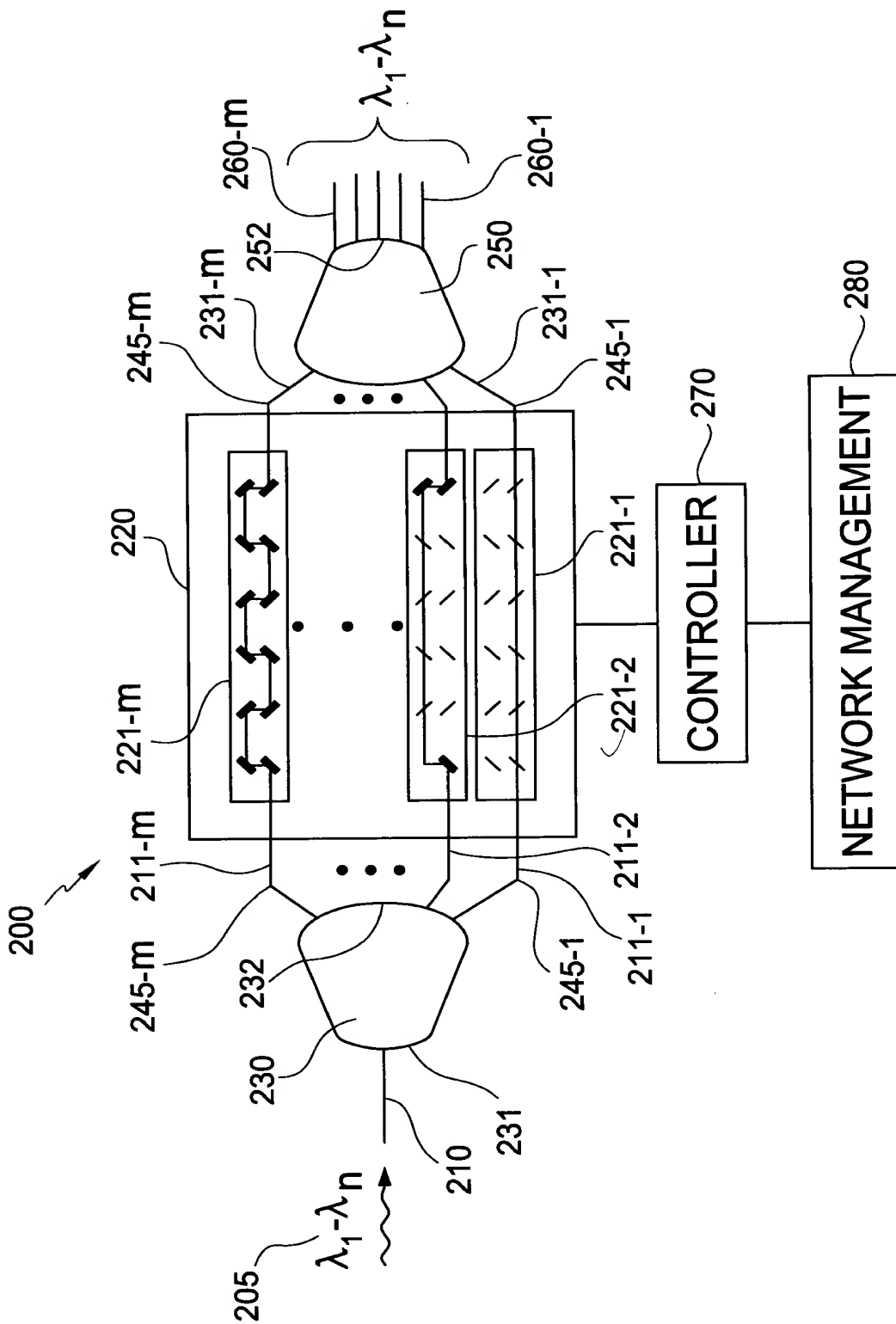


FIG. 4

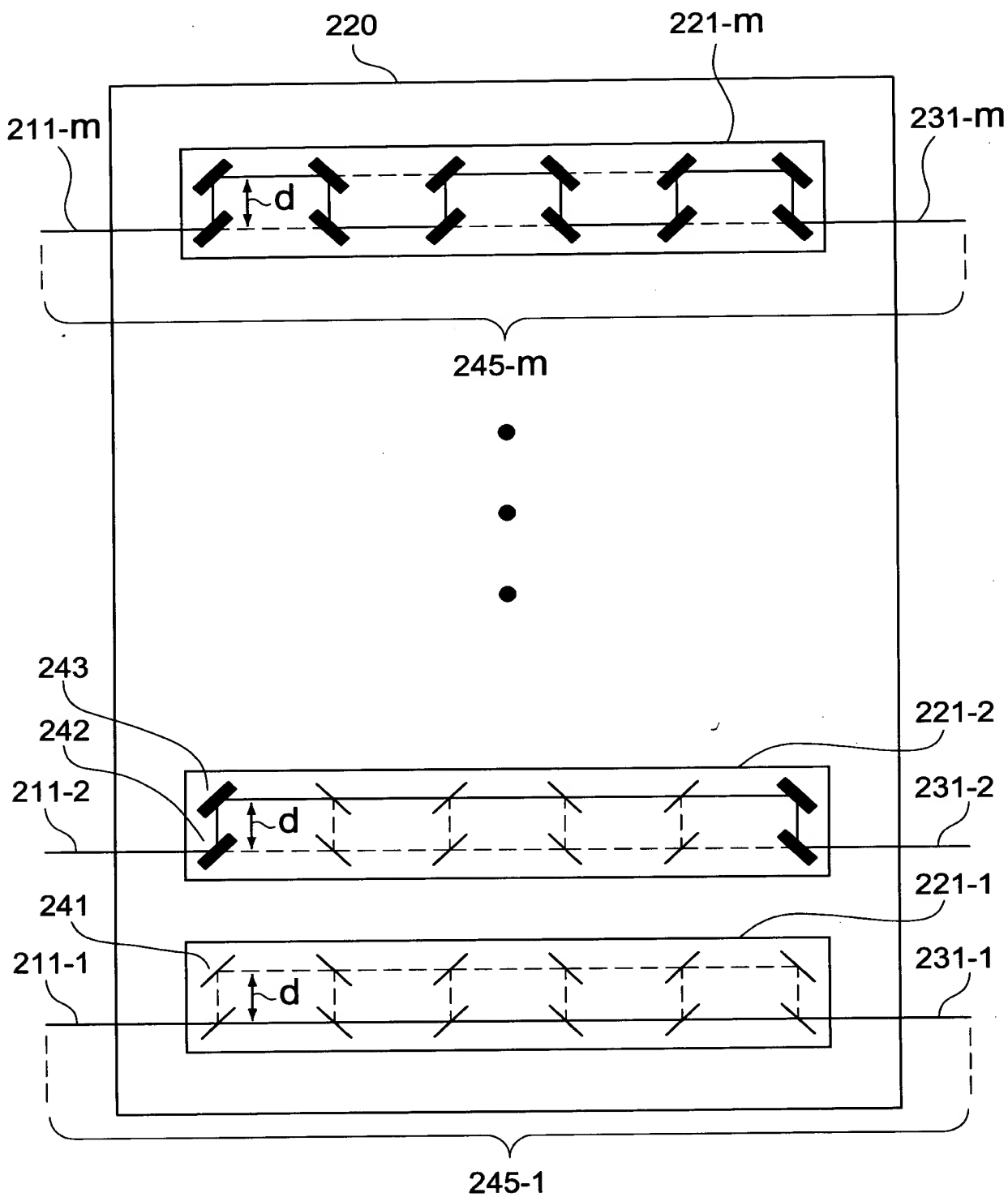


FIG. 5

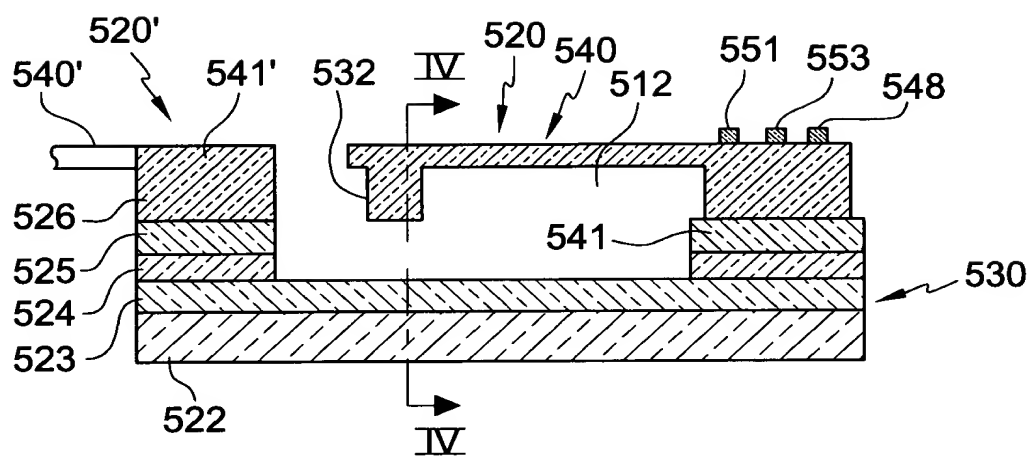


FIG. 6

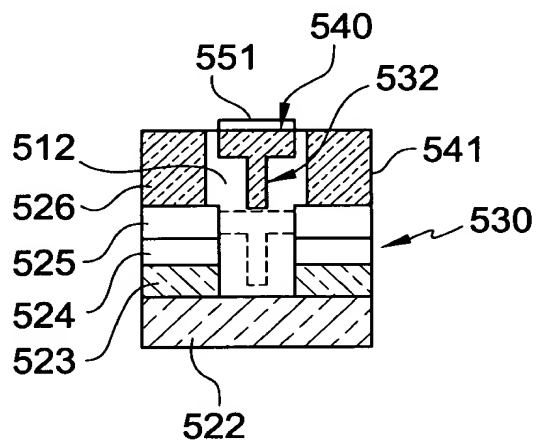


FIG. 7

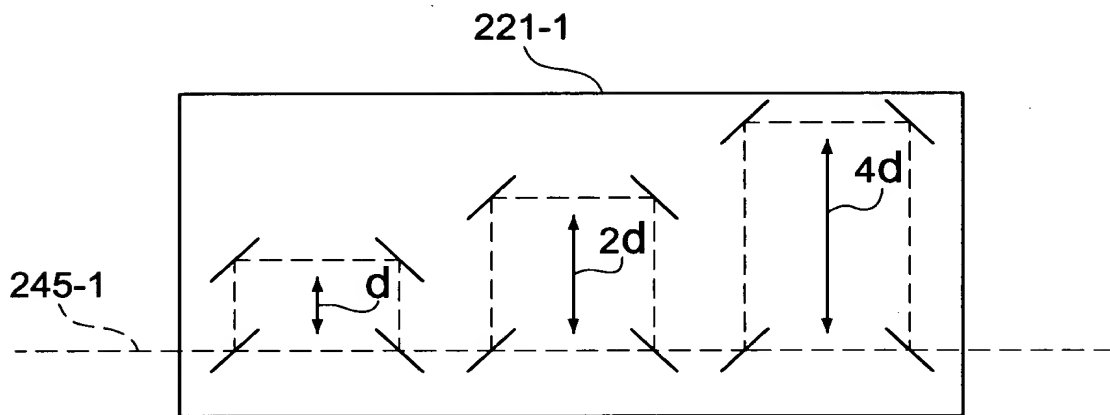


FIG. 8

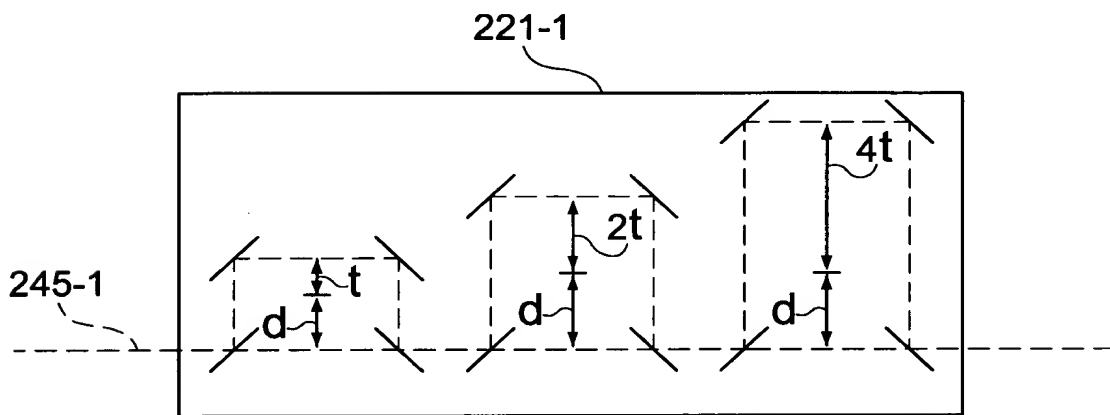


FIG. 9

INTENSITY AT OUTPUT PORT #0 & #1

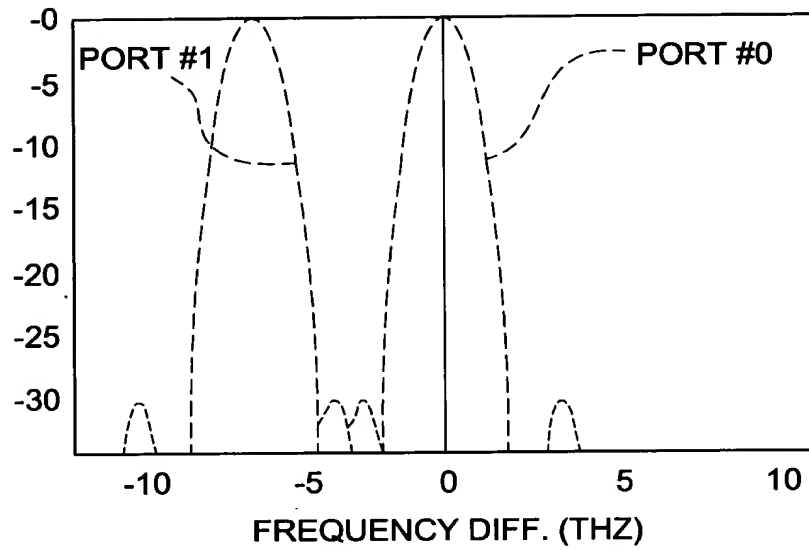


FIG. 10A

INTENSITY AT OUTPUT PORT #0 & #1

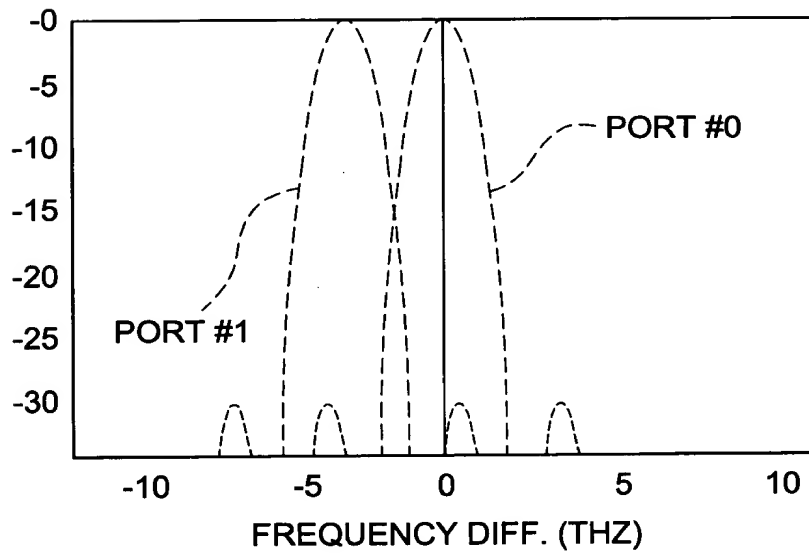


FIG. 10B

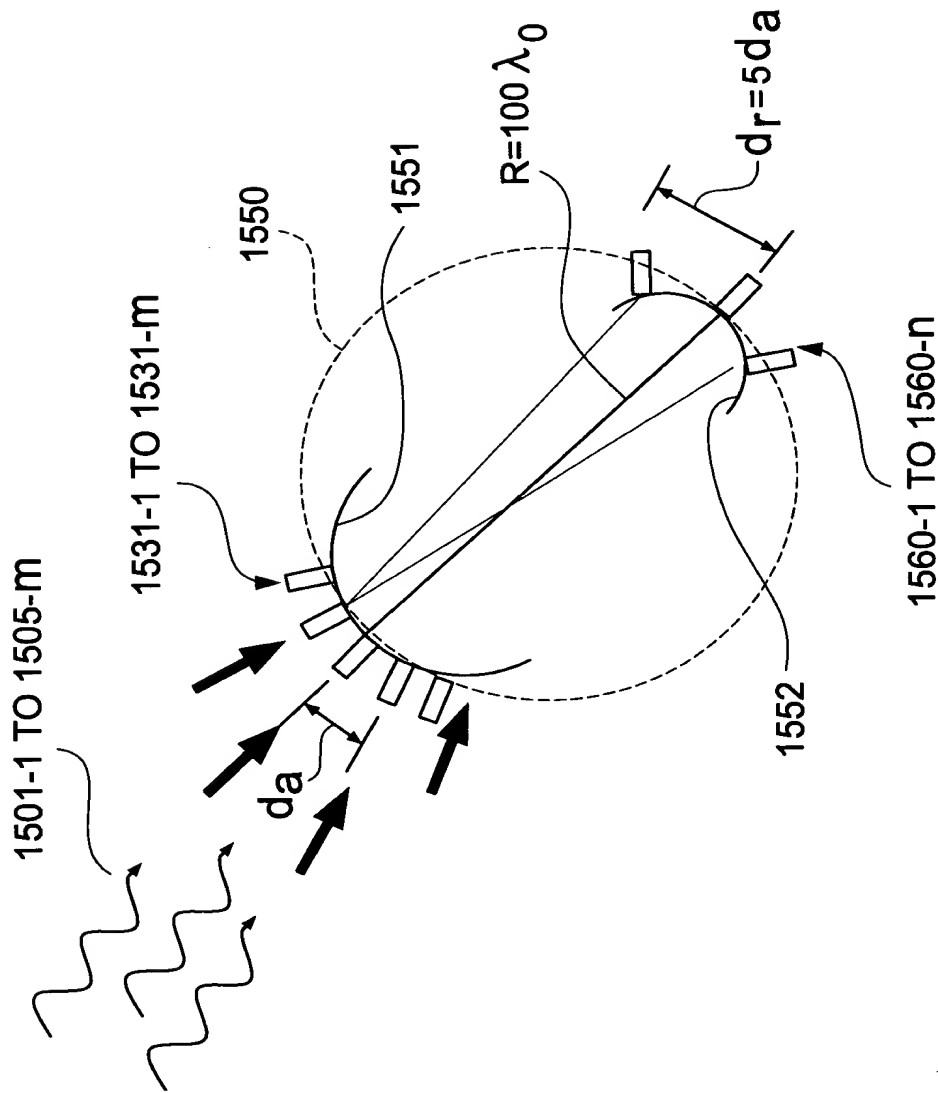


FIG. 11

FIG. 12 is a schematic diagram of a device 320, which is a cross-sectional view of a device. The device 320 includes a substrate 321, a first layer 322, a second layer 323, and a third layer 324. The first layer 322 is a layer of material having a thickness of 4d. The second layer 323 is a layer of material having a thickness of 0d. The third layer 324 is a layer of material having a thickness of 2d. The device 320 is shown in a cross-sectional view, with the layers 321, 322, 323, and 324 stacked on top of each other. The layers 322, 323, and 324 are shown with dashed lines indicating their boundaries. The layers 322, 323, and 324 are shown with solid lines indicating their top and bottom surfaces. The layers 322, 323, and 324 are shown with diagonal lines indicating their internal structure. The layers 322, 323, and 324 are shown with a thickness of d. The layers 322, 323, and 324 are shown with a thickness of 4d. The layers 322, 323, and 324 are shown with a thickness of 0d. The layers 322, 323, and 324 are shown with a thickness of 2d. The layers 322, 323, and 324 are shown with a thickness of 6d.

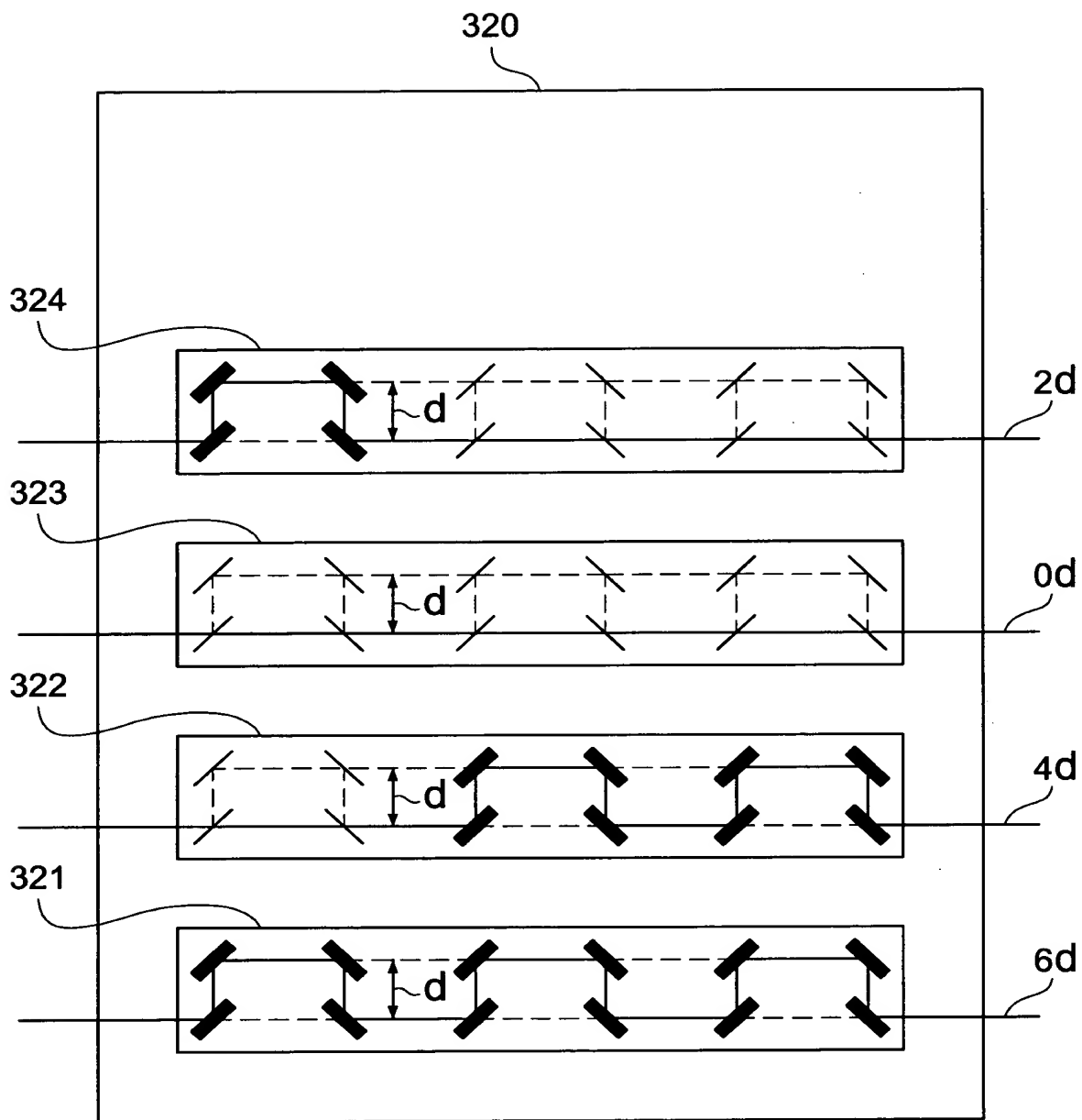
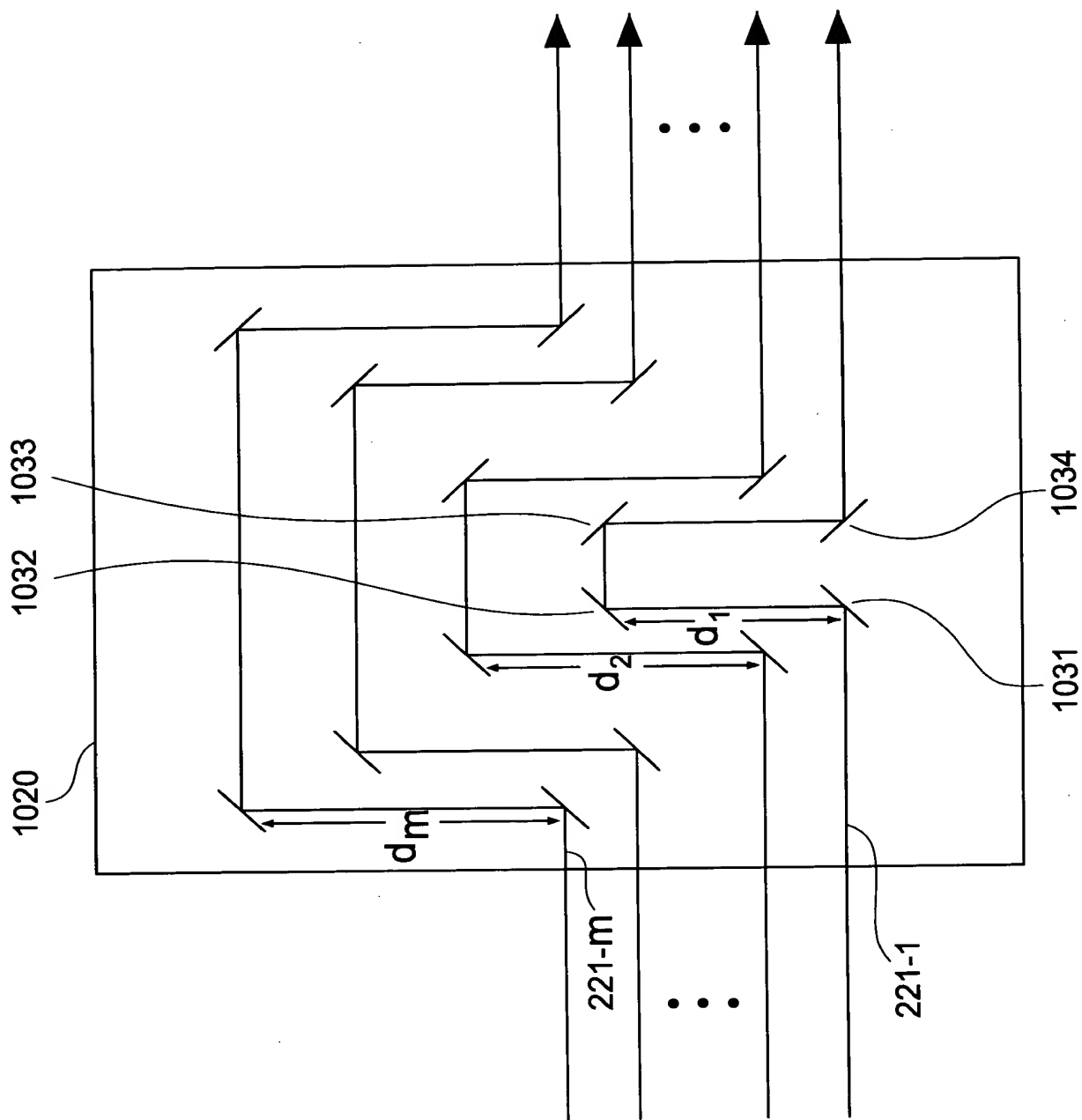


FIG. 12



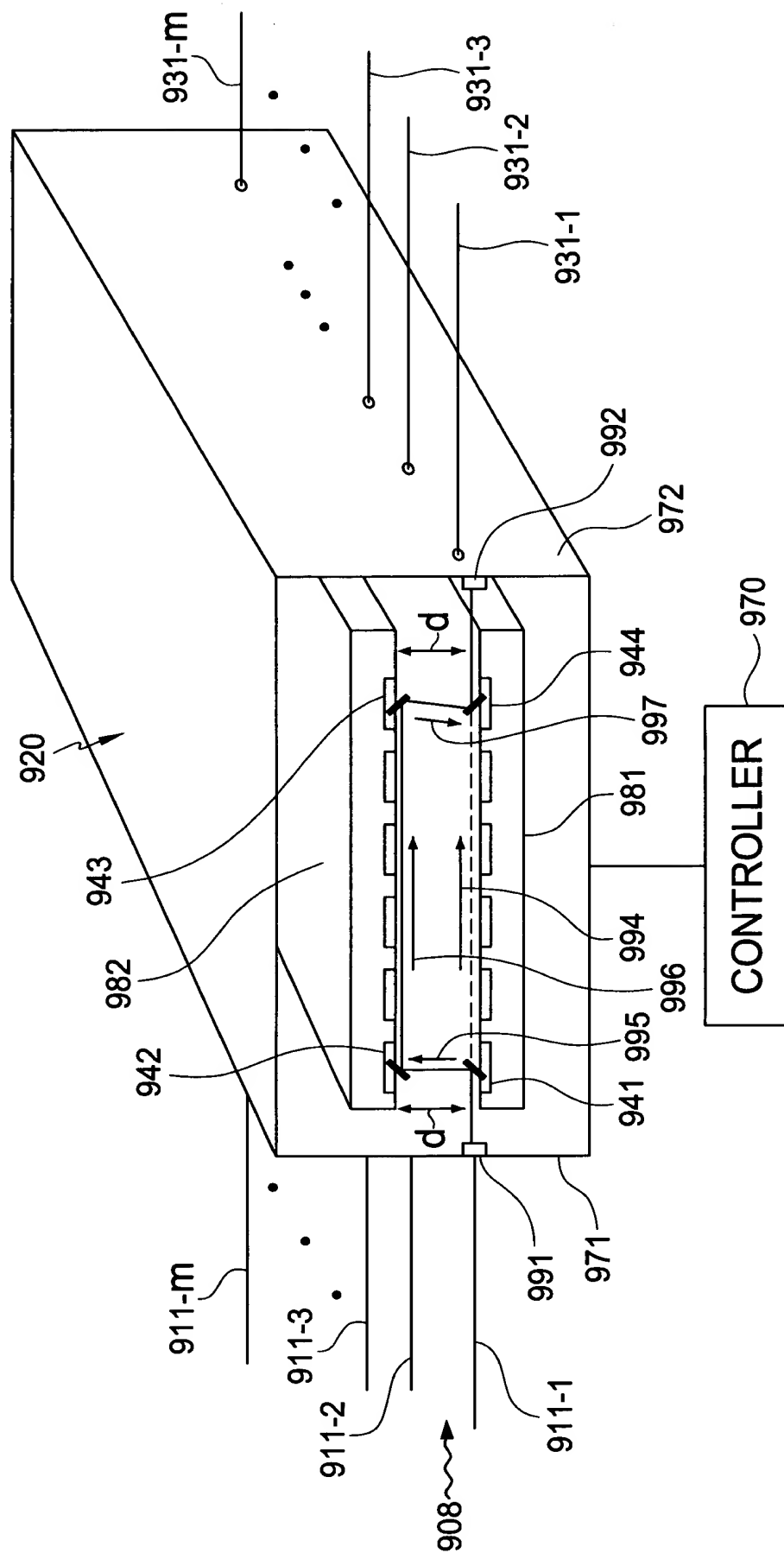


FIG. 14

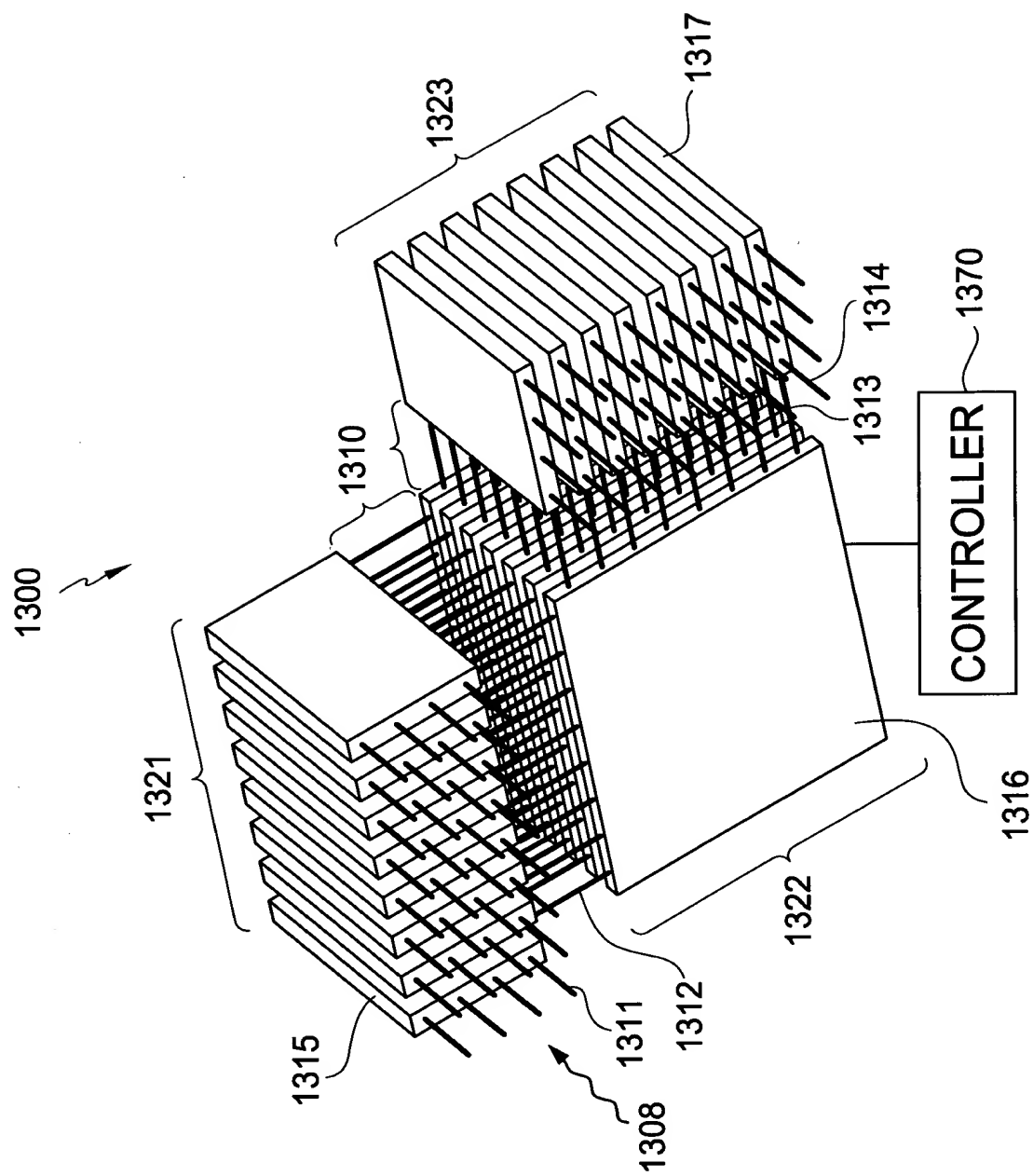


FIG. 16

FIG. 17 is a schematic diagram of a device 1400. The device 1400 includes a substrate 1410, a layer 1420, and a layer 1430. The layer 1420 is disposed on the substrate 1410, and the layer 1430 is disposed on the layer 1420. The layer 1420 includes a plurality of openings 1420-1, 1420-2, ..., 1420-m. The layer 1430 includes a plurality of openings 1430-1, 1430-2, ..., 1430-m. The openings 1420-1, 1420-2, ..., 1420-m and the openings 1430-1, 1430-2, ..., 1430-m are aligned with each other. The device 1400 is configured to receive incident light 1405 with wavelengths λ_1 to λ_n and to emit light 1460. The light 1460 is emitted from the layer 1430 through the openings 1430-1, 1430-2, ..., 1430-m. The light 1460 is emitted in a direction that is different from the direction of the incident light 1405. The device 1400 is configured to emit light 1460 with wavelengths λ_1 to λ_n .

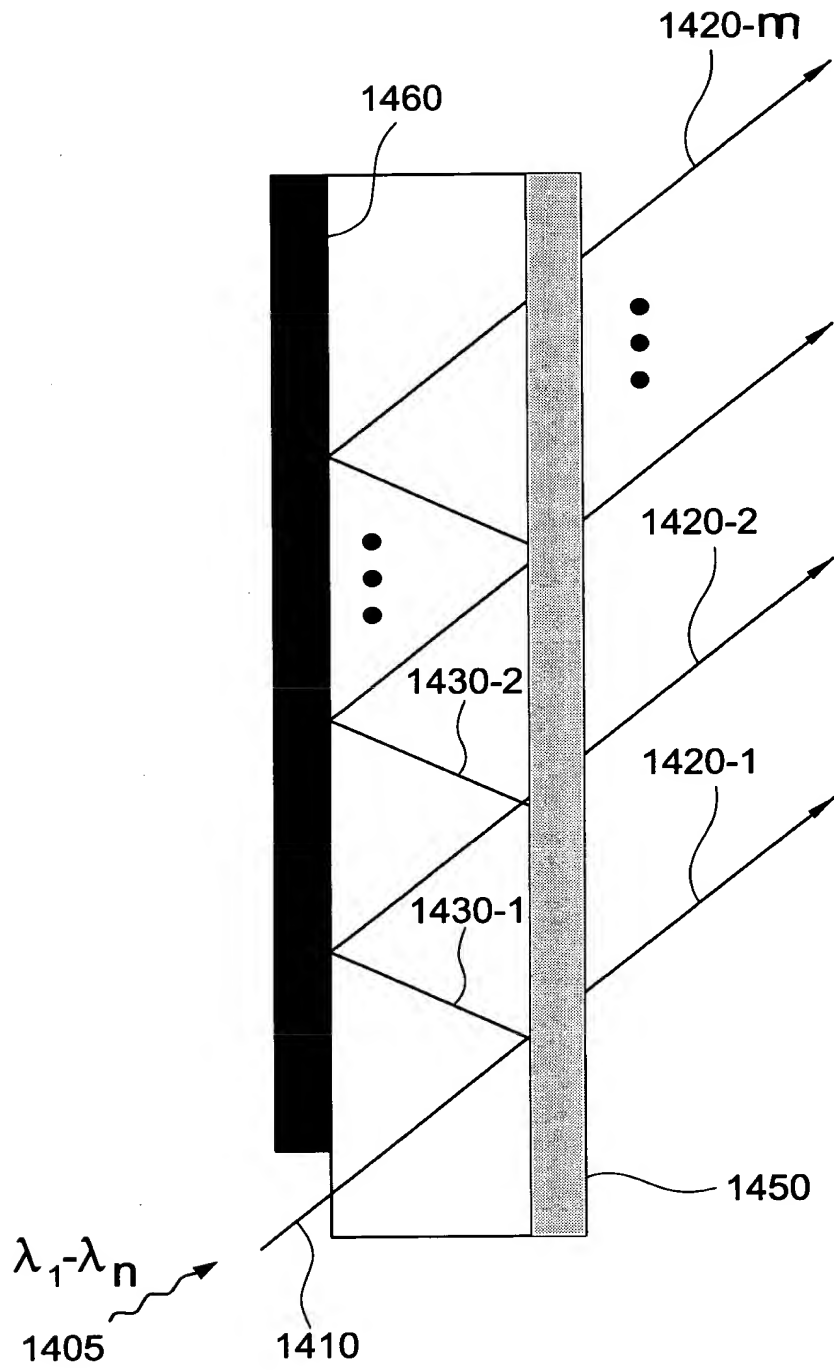


FIG. 17

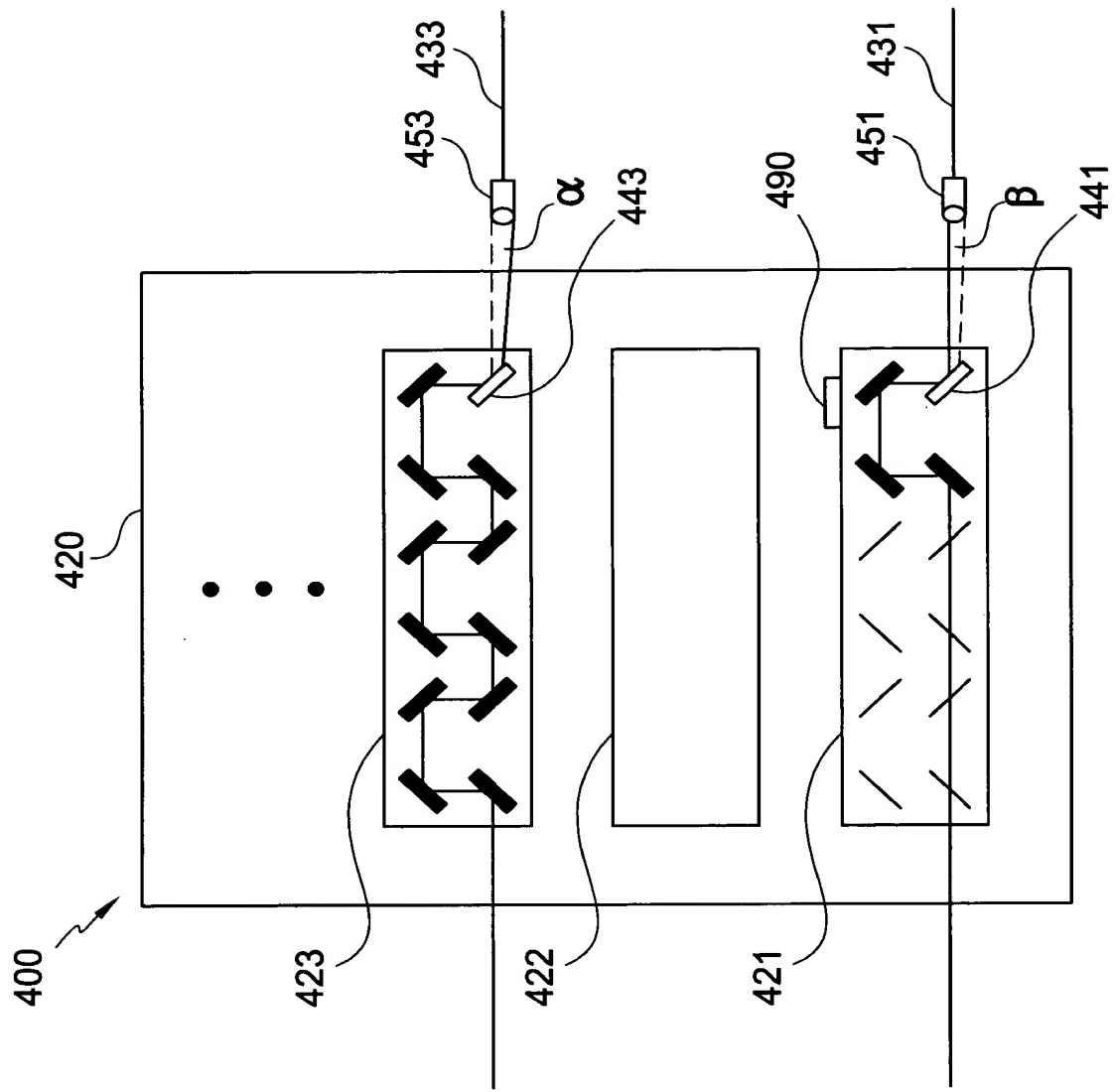


FIG. 18